Milwaukee County COVID-19 Data Summary

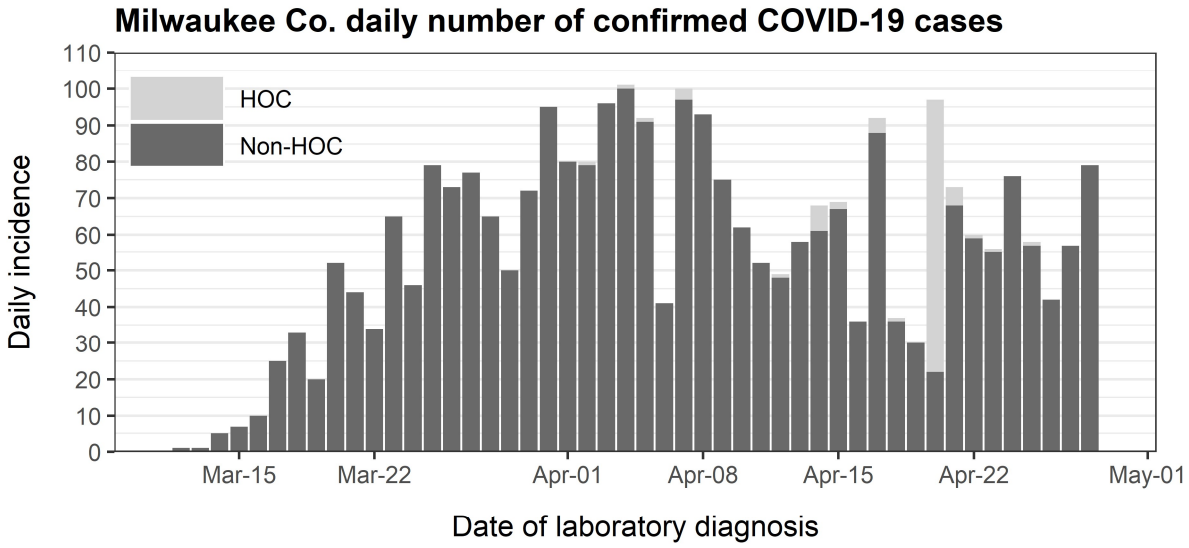
Milwaukee County COVID-19 Epidemiology Intel Team

April 29, 2020

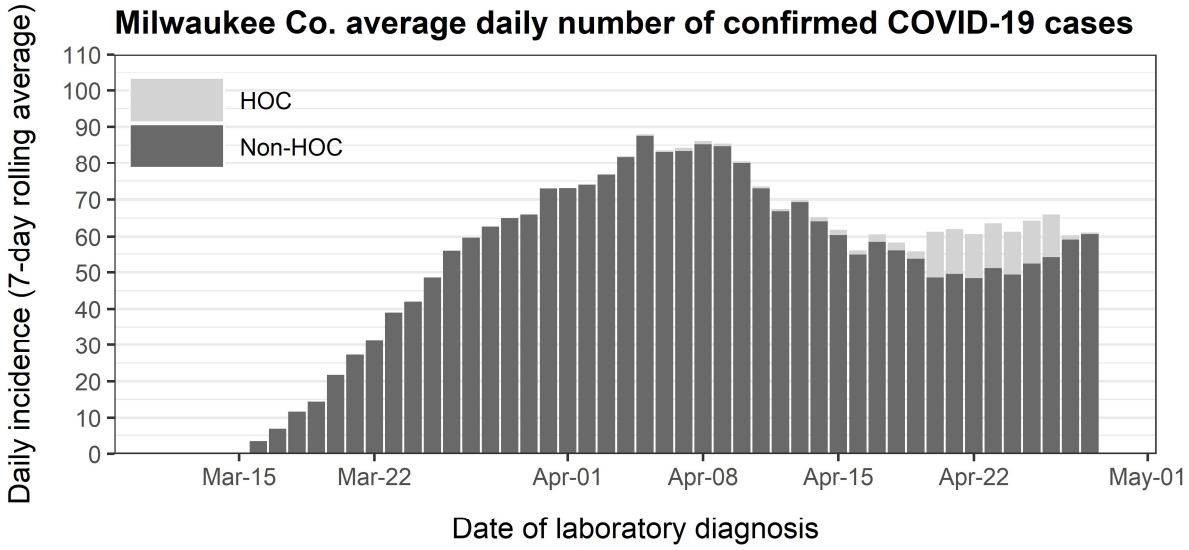
This report was updated on April 29, 2020 and includes data through April 28, 2020.

Total Cases and New Cases

There are now a total of 2763 cases in Milwaukee County, since the first confirmed case on March 12, 2020. Over the last week, we observed 428 new confirmed cases in Milwaukee County. The first plot below shows the daily incidence of new cases. The second plot shows the average daily incidence within the last 7 days, which provides a smoothing effect to enhance visualization. Over the last week, we have seen a slight increase in confirmed cases after having observed a decrease directly prior.



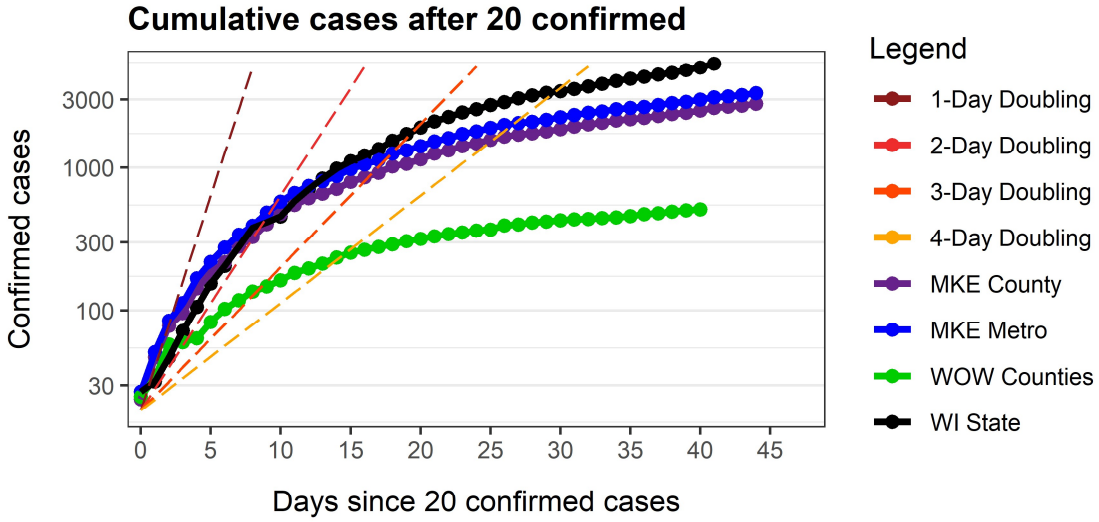
Data source: Wisconsin Electronic Disease Surveillance System (WEDSS)



Data source: Wisconsin Electronic Disease Surveillance System (WEDSS)

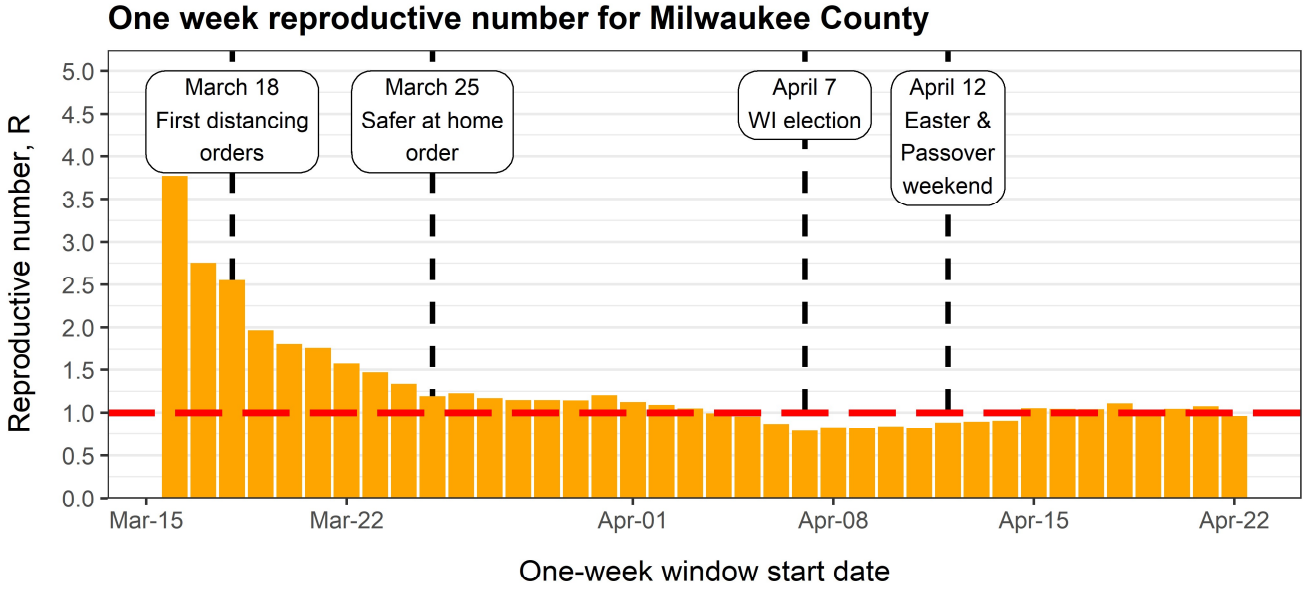
The COVID-19 Growth Rate

The time it takes for the number of cases to double is called the doubling time. The first figure below shows doubling times for Milwaukee County, the M7 (7-county) metropolitan area, and the state of Wisconsin. Dotted lines indicate doubling times of 1, 2 3 and 4 days. The current doubling time in Milwaukee County is 17.38 days.



Data source: Wisconsin Department of Health Services

Another way of examining the growth rate of the infection is to examine the reproductive number (R) of the virus. This number captures the number of new cases that are the result of an existing case. For example, an R of 2 would indicate that each infected person infects 2 new people. The figure below shows the change in R over time along with key dates related to physical distancing affecting Milwaukee County residents. The R for each date is calculated to represent the R for a 7 day period with the start day of that 7 day period represented on the graph. From the lowest R value observed (R = 0.79 on April 07, 2020), we observed an increase in R to a high of 1.11 on April 18, 2020.

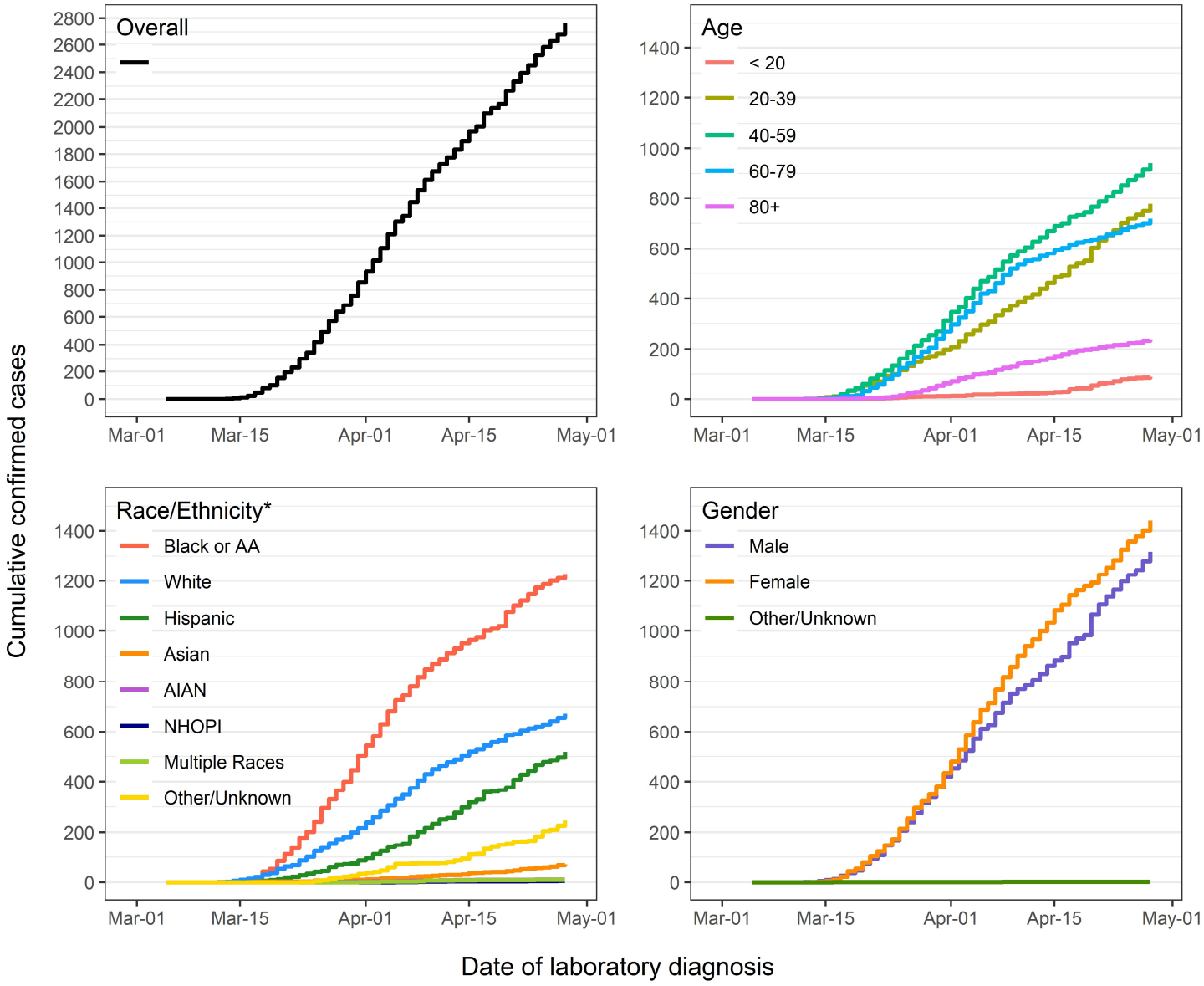


Data source: Wisconsin Electronic Disease Surveillance System (WEDSS)

Demographic Patterns – Age, Sex, Race and Ethnicity

Confirmed cases

COVID-19 cases vary by demographic characteristics. Most diagnosed cases fall within the ages of 20-79. Of all confirmed cases, 48% are male and 52% are female. The largest number of cases have been diagnosed among the Black or African American (AA) population. These plots include confirmed positive cases with an available laboratory confirmation date. Over the past week, we have seen a slight uptick in cases among the Black/AA community, males and among those ages 20-39; the cumulative number of cases among those ages 20-39 (N = 777) now exceeds the number among those ages 60-79 (N = 719). A portion, but not all, of this increase is attributable to a focused testing campaign at the Milwaukee County House of Corrections in Franklin, WI, which resulted in a total of 104 cases – of those cases, 100% were male, 67% were between the ages of 20-39 and 64% were Black/AA.



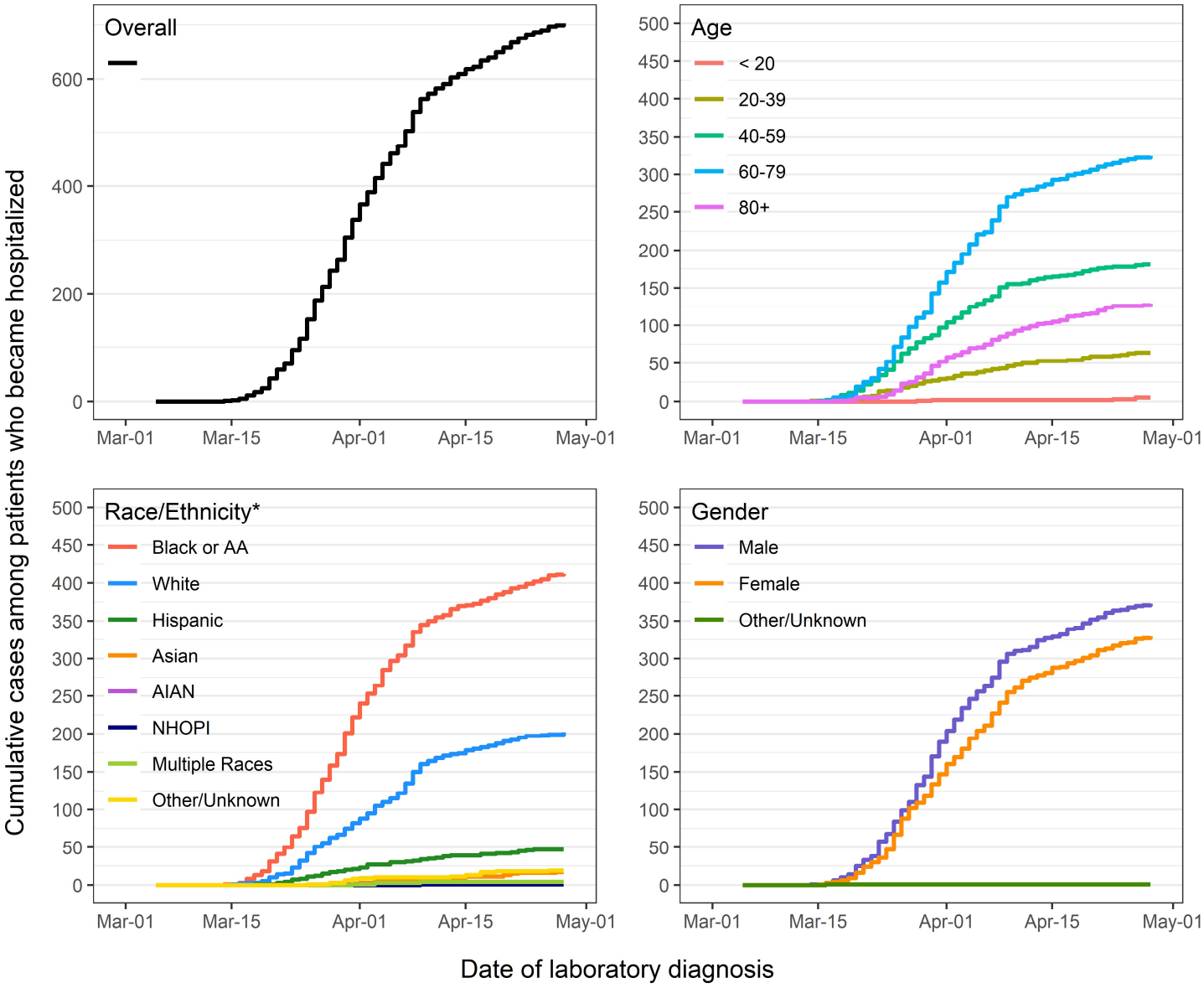
Data source: Wisconsin Electronic Disease Surveillance System (WEDSS)

**Race and ethnicity were combined into one variable where the Hispanic category includes Hispanics of any race.*

AIAN stands for American Indian or Alaska Native and NHOPI stands for Native Hawaiian or Other Pacific Islander.

Hospitalizations

A total of 703 individuals have been hospitalized due to COVID-19. Most hospitalized cases are between 40 and 79 years of age. As with total cases, the highest number of hospitalizations is among the Black/AA community, followed by the White community, with low hospitalization rates among other racial and ethnic groups. By gender, males are hospitalized more often than females, with males comprising 53% of the total hospitalized cases; this is in contrast to total cases, as females are more often diagnosed. Note: A previous coding error affecting hospitalization data was identified and corrected on June 8th; we regret this error. This report has been updated to correct this error.

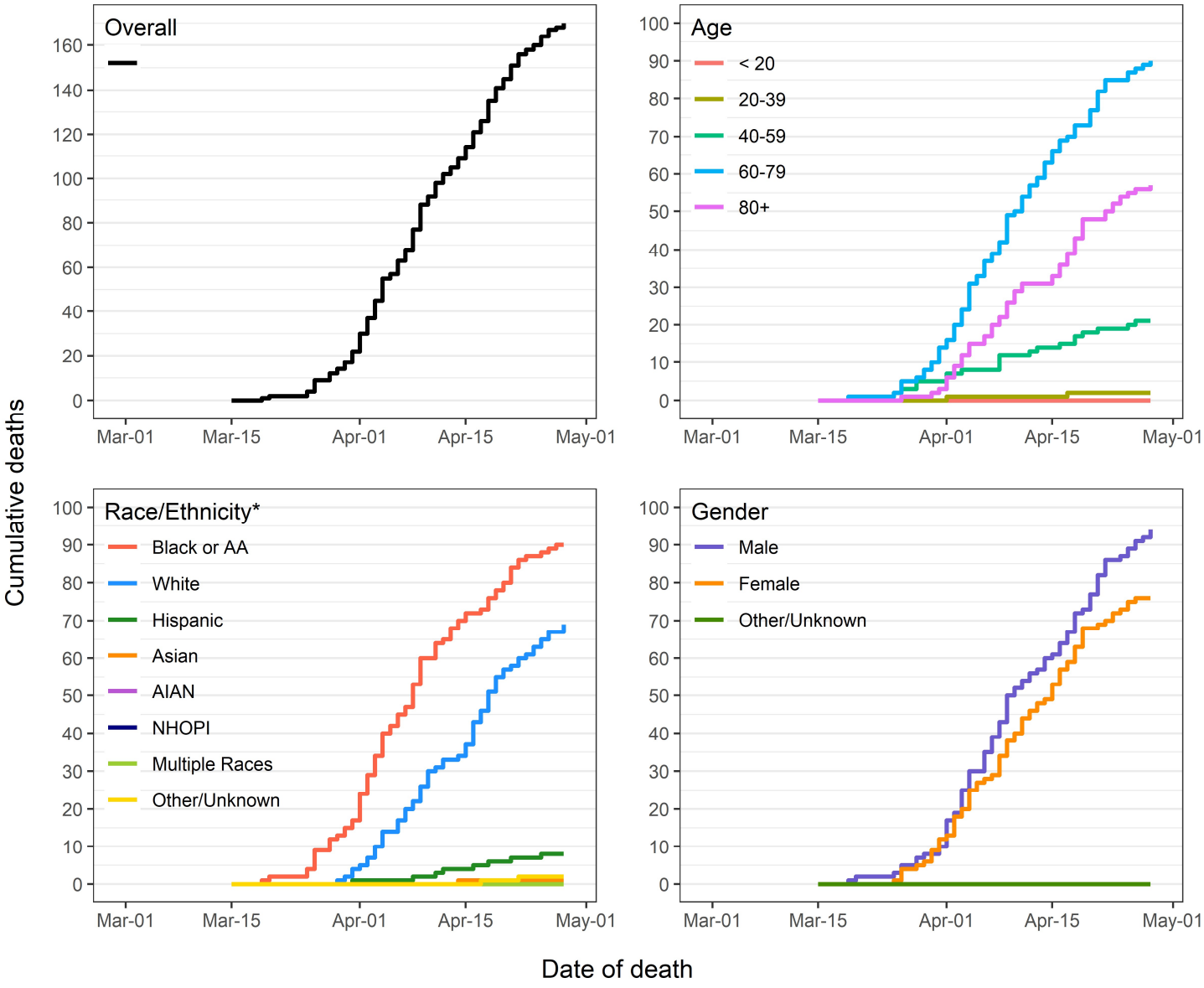


Data source: Wisconsin Electronic Disease Surveillance System (WEDSS)

** Race and ethnicity were combined into one variable where the Hispanic category includes Hispanics of any race. AIAN stands for American Indian or Alaska Native and NHOPI stands for Native Hawaiian or Other Pacific Islander.*

Deaths

There are now a total of 170 confirmed deaths in Milwaukee County, representing a case fatality rate of 6.15%. We observed 19 new deaths over the past week in the county. The current doubling rate in the county (the number of days it takes for the number of deaths to double) is 140.43 days. Mortality patterns differ by demographic characteristics. The largest number of deaths are recorded among those age 60 or older. Similar to hospitalizations, the largest number of deaths are recorded for the Black/AA community and for males, followed by Whites. Males continue to comprise the largest proportion of deaths.



Data source: Wisconsin Electronic Disease Surveillance System (WEDSS)

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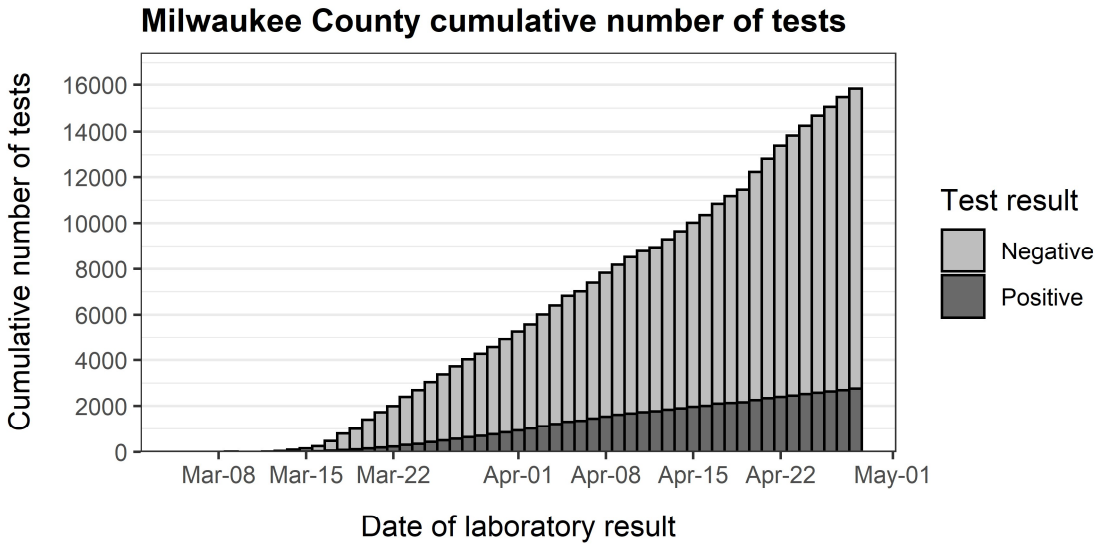
Testing Coverage

Testing for the novel coronavirus is an important public health response to limiting the spread of the infection. Testing capacity has been limited in Milwaukee County and across the country. Since the first case of COVID-19 was diagnosed in Milwaukee County on March 12, 2020, a total of 15843 COVID-19 tests have been returned with a laboratory result, with 13080 returned negative and 2763 confirmed cases. This represents a positive test rate overall of 17.4%.

As shown in the first figure below, the total number of tests and the total number of positive and negative tests has gradually accumulated over time, with many more negative than positive tests. As shown in the second figure, the total number of tests performed per week has increased over the last two weeks, in tandem with a slight decrease in positive tests, indicating an overall improvement in testing capacity in the county. Over the last week, the percent of tests positive was 14.3%.



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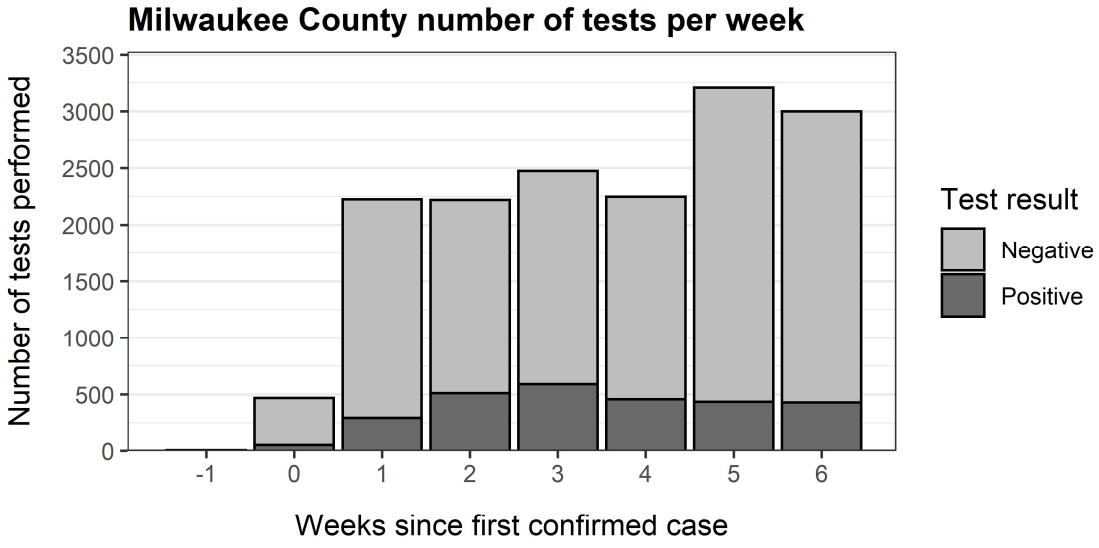
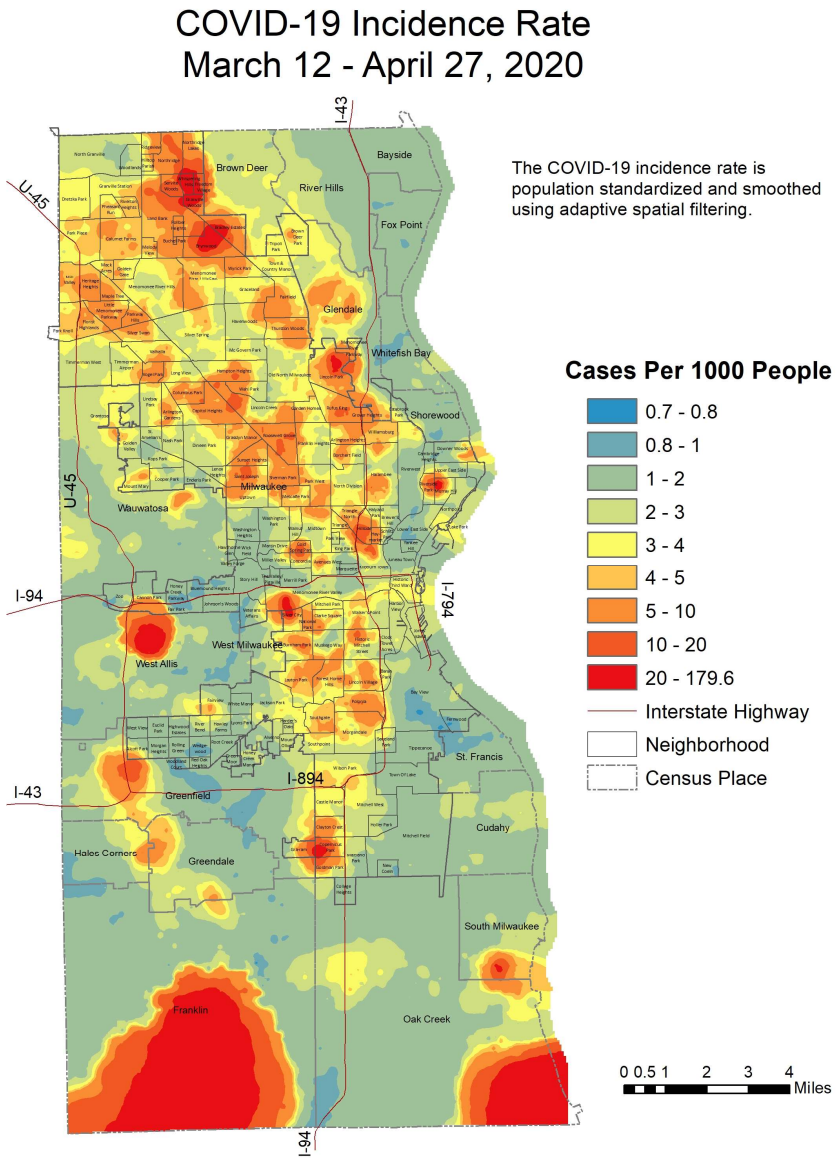


Data source: Wisconsin Electronic Disease Surveillance System (WEDSS)

Spatial Patterns of Cases and Testing

COVID-19 spread is spatially patterned. Map 1 below illustrates the cumulative burden (all confirmed cases) of COVID-19 in Milwaukee County. Map 2 shows only the cases confirmed over the last week. Map 3 shows the testing rate across the population. Map 4 depicts the proportion of total tests completed that were confirmed positive. Map 5 shows cumulative COVID-19 related hospitalizations in Milwaukee County. All are crude rate maps created using residential addresses and census block level population data from the US Census. The maps are smoothed to protect confidentiality and ensure that rates are stable while still providing geographic detail. High rates are depicted in red with lower rates depicted in blue. Of note, some of the higher rates observed can be attributed to infections that have spread within group quarters, such as a nursing home, prison, or long-term care facility.

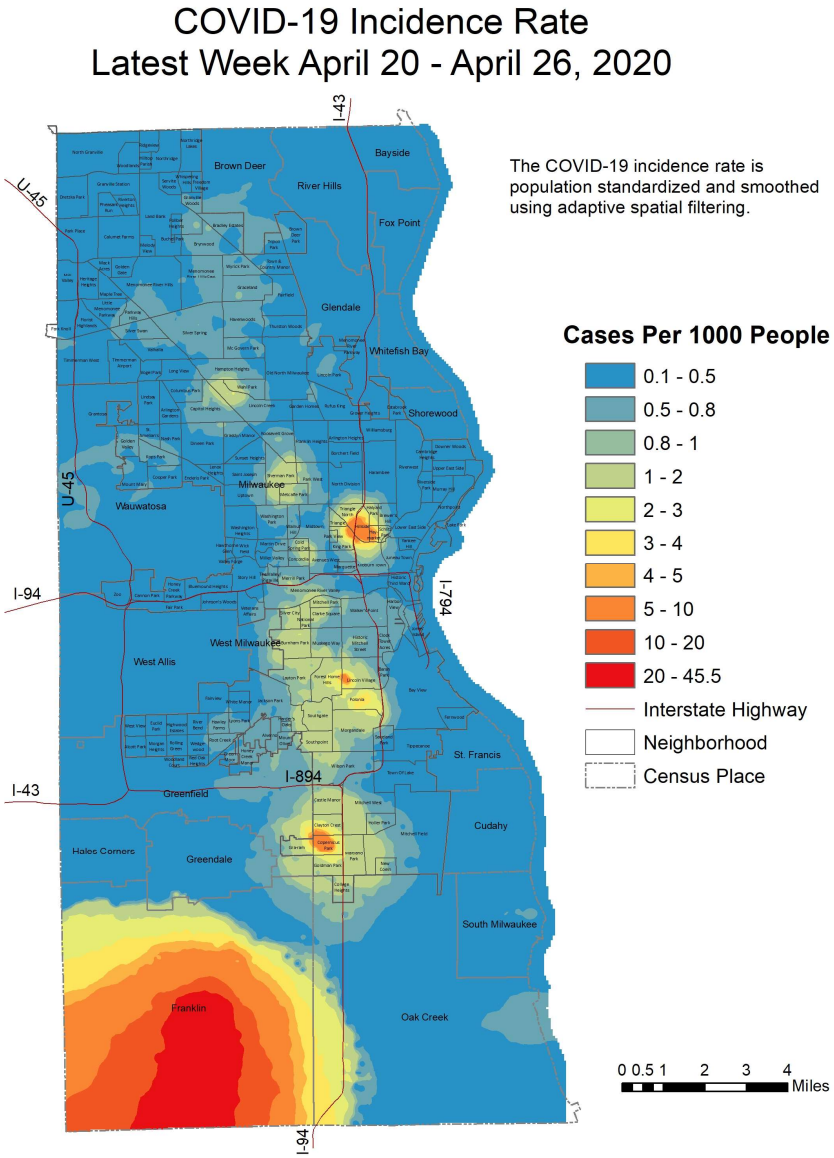
Map 1: All confirmed cases of COVID-19



Method: A grid of points is used to estimate rates continuously across the map, based on the nearest cases with a minimum of 10 confirmed cases included.

Data Sources: Wisconsin Electronic Disease Surveillance System (WEDSS) (incidence data)
2010 Decennial Census (population data)
City of Milwaukee Map Milwaukee Portal (neighborhood boundaries)
Census Bureau TIGER/Line Shapefiles (census place boundaries)

Map 2: Confirmed cases of COVID-19 within the last week



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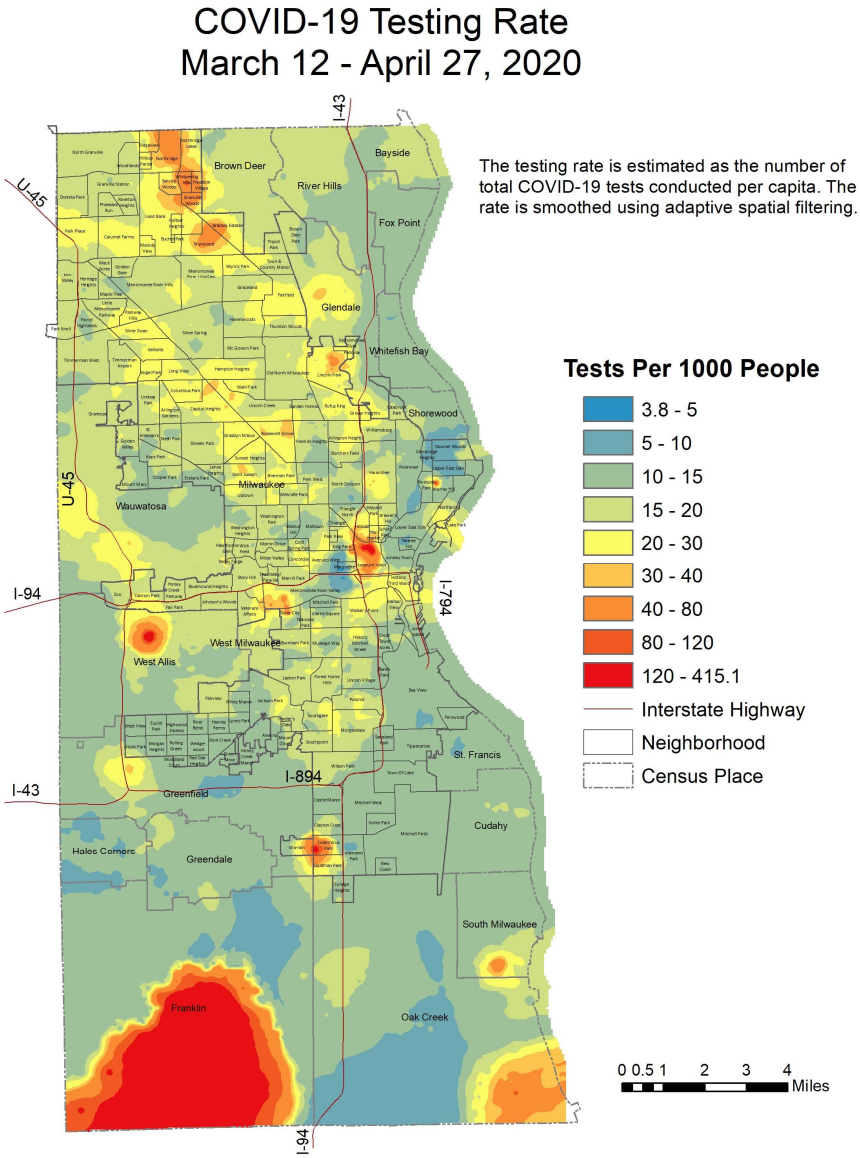
Map 3: Testing rate



Method: A grid of points is used to estimate rates continuously across the map, based on the nearest tests conducted, with a minimum of 10 confirmed cases included in each calculation.

Data Sources: Wisconsin Electronic Disease Surveillance System (WEDSS) (incidence data)
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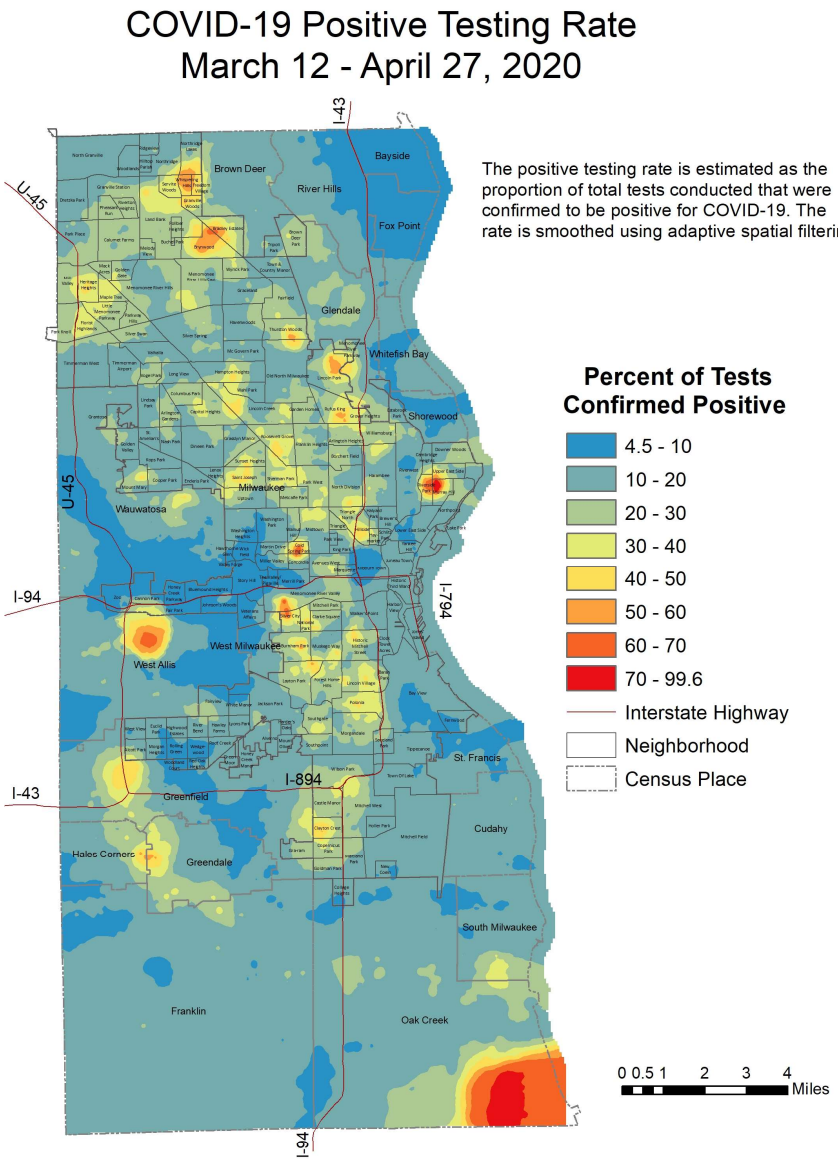
Map 4: Proportion of total tests completed that were confirmed positive



Method: A grid of points is used to estimate rates continuously across the map, based on the nearest tests conducted, with a minimum of 10 confirmed positive tests included in each calculation.

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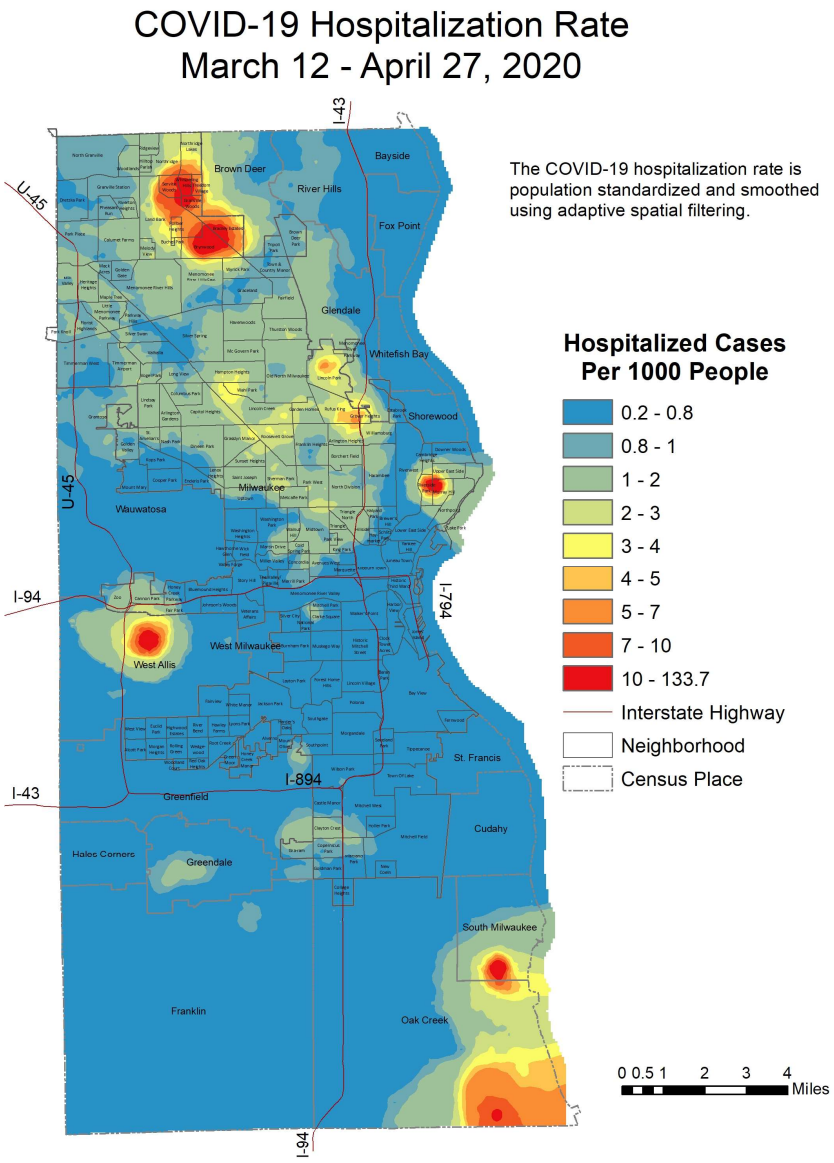
Map 5: COVID-19 related hospitalizations



Method: A grid of points is used to estimate rates continuously across the map, based on the nearest cases with a minimum of 10 confirmed cases included.

Data Sources: Wisconsin Electronic Disease Surveillance System (WEDSS) (incidence data)
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Data Sources & Acknowledgments

This report was created by faculty and staff in the Medical College of Wisconsin (MCW) Institute for Health and Equity (IHE) in partnership with representatives from local health departments and faculty from the University of Wisconsin-Milwaukee Zilber School of Public Health. Data sources include the Wisconsin Electronic Disease Surveillance System (WEDSS), the US Census Bureau, the Milwaukee County Medical Examiner's office, the Emergency Medicine Resource, and publicly available data obtained from local health and emergency response agencies. Data from the Wisconsin Electronic Data Surveillance System (WEDSS) summarized for the week includes data from April 29, 2020 through May 05, 2020. This work was funded by the Advancing a Healthier Wisconsin Endowment at the Medical College of Wisconsin.

Contact Information

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